

TRACE TERMINATION FOR ON-THE-FLY GARBAGE COLLECTION FOR  
WEAKLY CONSISTENT COMPUTER ARCHITECTURE

**ABSTRACT**

A method for memory management in execution of a  
5 program by a computer having a memory includes allocating  
respective portions of the memory to data objects using  
mutator threads of the program, whereby the objects are  
held in a heap created by the program. The data objects  
in the heap are traced so as to mark the data objects  
10 that are reachable at a given stage in the program. The  
computer loops over the mutator threads so as to verify  
for each of the mutator threads that every update to the  
allocated portions of the memory in progress by the  
mutator thread has been completed. The heap is then  
15 swept so as to free the memory that is allocated to the  
data objects that are not marked as reachable, for  
reallocation to new data objects.